

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions and listings of claims in the application.

Listing of the Claims:

1. (Currently amended) An oil-impregnated sintered bearing comprising:
a bearing body made of a sintered metal to support a rotating shaft by an inner surface thereof as a friction surface, said bearing body having a bearing hole therein;
wherein the bearing hole includes a journal part that has a constant diameter, said journal part being configured to support the rotating shaft when the shaft is parallel to an axial direction of the bearing body, and enlarged diameter parts that are respectively provided on both sides of the journal part in the axial direction of the bearing body the longitudinal direction thereof, respectively, so as to be connected with the journal part, said enlarged diameter parts being configured to support the rotating shaft when the shaft inclines with respect to the axial direction of the bearing body, [;
and]]
the sintered density of the enlarged diameter parts is larger than that of the journal part such that cavities exposed on an inner surface of the enlarged diameter parts are smaller in size and fewer in number than those of cavities exposed on an inner surface of the journal part,
wherein each of the enlarged diameter parts has a taper angle which changes stepwise with respect to a longitudinal direction of the enlarged diameter part such that the taper angle increases as distance from the journal part increases, and each of the enlarged diameter parts includes a first part connected with an end of the journal part, the journal part and first parts respectively support the shaft; and
a taper angle between one of the first parts and an axial direction of the bearing body, and a taper angle between the other first part and the axial direction of the bearing body are equal to each other and are 3° or less; and

a line obliquely extending along an inclined surface of one of the first parts is arranged parallel to a line obliquely extending along an inclined surface of the other first part, and a distance between the lines is substantially equal to the diameter of the rotating shaft.

2. (Cancel)

3. (Currently amended) The oil-impregnated sintered bearing according to claim 1, wherein a shortest distance between ~~[[a]]~~ the line obliquely extending along an inclined surface of one of the first parts and the journal part across a middle axis of the bearing body is substantially equal to the diameter of the rotating shaft.

4 – 6. (Canceled)

7. (Withdrawn) A method of manufacturing an oil-impregnated sintered bearing which includes a bearing body made of a sintered metal to support a rotating shaft, the bearing body having a bearing hole formed therein, the bearing hole including a journal part of which an inner surface as a friction surface has a constant diameter and enlarged diameter parts that are provided so as to be connected with the journal part and are formed in a tapered shape having diameters to be enlarged toward the tips thereof, comprising: forming a bearing hole that includes the journal part having a constant diameter by pressing an inner circumferential surface of a cylindrical sintered body completely sintered; and forming the enlarged diameter parts so as to be connected with the journal part by re-pressing the inner circumferential surface of the cylindrical sintered body.

8. (Withdrawn) The method of manufacturing an oil-impregnated sintered bearing according to claim 7, wherein substantially cone-shaped press dies each having a base having a diameter larger than the inner diameter of the sintered body are used for forming the enlarged diameter parts.

9. (Withdrawn) The method of manufacturing an oil-impregnated sintered bearing according to claim 8, wherein the press dies are simultaneously inserted from both sides of the sintered body, respectively, and the tips of the press dies are pushed against the inner circumferential surface of the sintered body so as not to come into contact with each other.

10. (Currently amended) An oil-impregnated sintered bearing which includes a bearing body made of a sintered metal to support a rotating shaft, the bearing body having a bearing hole formed therein, the bearing hole including a journal part of which an inner surface acting as a friction surface has a constant diameter, said journal part being configured to support the rotating shaft when the shaft is parallel to an axial direction of the bearing body, and enlarged diameter parts that are ~~provided so as to be connected with the journal part and are~~ formed in a tapered shape having diameters ~~[[to be]]~~ that are enlarged toward the tips thereof, said enlarged diameter parts being configured to support the rotating shaft when the shaft inclines with respect to the axial direction of the bearing body,

wherein the bearing hole that includes the journal part having a constant diameter is formed by pressing an inner circumferential surface of a cylindrical sintered body~~[[:]~~,

wherein the enlarged diameter parts that are to be connected with the journal part are formed by re-pressing the inner circumferential surface of the cylindrical sintered body~~and,~~

the sintered density of the enlarged diameter parts is larger than that of the journal part such that cavities exposed on an inner surface of the enlarged diameter parts are smaller in size and fewer in number than those of cavities exposed on an inner surface of the journal part,

wherein ~~each of the enlarged diameter parts has a taper angle which changes stepwise with respect to a longitudinal direction of the enlarged diameter part such that the taper angle increases as distance from the journal part increases, and each of the enlarged diameter parts includes a first part connected with an end of the journal part, and the journal part and first parts respectively support the shaft;~~

a taper angle between one of the first parts and an axial direction of the bearing body, and a taper angle between the other first part and the axial direction of the bearing body are equal to each other and are 3° or less; and

a line obliquely extending along an inclined surface of one of the first parts is arranged parallel to a line obliquely extending along an inclined surface of the other first part, and a distance between the lines is substantially equal to the diameter of the rotating shaft.

11. (Previously presented) An oil-impregnated sintered bearing comprising:

a bearing body made of a sintered metal to support a rotating shaft by an inner surface thereof as a friction surface, said bearing body having a bearing hole therein;

wherein the bearing hole includes a journal part that has a constant diameter, said journal part being configured to support the rotating shaft when the shaft is parallel to an axial direction of the bearing body, an enlarged diameter part that is provided on only one side of the journal part, and a chamfered portion that is provided on the other side of the journal part in the axial direction of the bearing body; ~~the longitudinal direction thereof, respectively~~, so as to be connected with the journal part, ~~the journal part and enlarged diameter parts respectively support the shaft~~; said enlarged diameter part being configured to support the rotating shaft when the shaft inclines with respect to the axial direction of the bearing body, and

the sintered density of the enlarged diameter parts is larger than that of the journal part such that cavities exposed on an inner surface of the enlarged diameter parts are smaller in size and fewer in number than those of cavities exposed on an inner surface of the journal part,

wherein the journal part is formed first by pressing an inner circumferential surface of a cylindrical sintered body, followed by the enlarged parts which are accurately adjusted with the respect to the journal part.

12. (Previously presented) An oil-impregnated sintered bearing according to claim 11,

wherein the journal part and the enlarged diameter part are formed so that a distance between a line obliquely extending along an inclined surface of the enlarged diameter part toward

the center of the bearing body and an inner wall surface of the journal part is slightly larger than a diameter of the rotating shaft.

13. (Previously presented) An oil-impregnated sintered bearing according to claim 11, wherein a taper angle formed between an inclined plane of the enlarged diameter part and an inner surface of the journal part parallel to the axial direction of the bearing body is set to 3° or less.

14. (New) An oil-impregnated sintered bearing according to claim 1, wherein a taper angle between one of the first parts and an axial direction of the bearing body and a taper angle between the other first part and the axial direction of the bearing body are equal to each other and are 3° or less.

15. (New) An oil-impregnated sintered bearing according to claim 1, wherein each of the enlarged diameter parts has taper angles which changes stepwise with respect to a longitudinal direction of the enlarged diameter part such that the taper angle increases with increasing distance from the journal part.

16. (New) An oil-impregnated sintered bearing according to claim 14, wherein the enlarged diameter parts are formed so that the difference between the taper angles of adjacent parts of each of the enlarged diameter parts is 3° or less.

17. (New) An oil-impregnated sintered bearing according to claim 11, wherein a shortest distance between the line obliquely extending along an inclined surface of one of the first parts and the journal part across a middle axis of the bearing body is substantially equal to the diameter of the rotating shaft.

18. (New) An oil-impregnated sintered bearing according to claim 1,

wherein the journal part is formed first by pressing an inner circumferential surface of a cylindrical sintered body, followed by the enlarged parts that are formed by pressing the inner circumferential surface of the cylindrical sintered body while being accurately adjusted with the respect to the journal part.

19. (New) An oil-impregnated sintered bearing according to claim 10,
wherein the journal part is formed first followed by the enlarged parts that are accurately adjusted with the respect to the journal part.

20. (New) An oil-impregnated sintered bearing according to claim 11,
wherein the journal part is formed first by pressing an inner circumferential surface of a cylindrical sintered body, followed by the enlarged parts that are formed by pressing the inner circumferential surface of the cylindrical sintered body while being accurately adjusted with the respect to the journal part.